

Exhibit U



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NOTICE OF ALLOWANCE AND FEE(S) DUE

79141 7590 08/22/2017
 Jamie J. Zheng, Ph.D Esq.
 MASCHOFF BRENNAN
 1389 Center Drive
 Suite 300
 Park City, UT 84098

EXAMINER

BANSAL, GURTEJ

ART UNIT

PAPER NUMBER

2139

DATE MAILED: 08/22/2017

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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14/715,486

05/18/2015

Jeffrey C. Solomon

N3044.10002US21

1537

TITLE OF INVENTION: MEMORY MODULE WITH DATA BUFFERING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	11/22/2017

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

11181

Complete and send this form, together with applicable fee(s), to: **Mail**

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

79141 7590 08/22/2017
Jamie J. Zheng, Ph.D Esq.
MASCHOFF BRENNAN
1389 Center Drive
Suite 300
Park City, UT 84098

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/715,486	05/18/2015	Jeffrey C. Solomon	N3044.10002US21	1537

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nonprovisional	SMALL	\$480	\$0	\$0	\$480	11/22/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
BANSAL, GURTEJ	2139	711-105000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/715,486	Applicant(s) SOLOMON ET AL.	
	Examiner GURTEJ BANSAL	Art Unit 2139	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Examiner initiated interview dated August 16, 2017.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-9, 11-17, and 22-34. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

<ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>See Continuation Sheet</u> 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date <u>20170816</u>. 	<ol style="list-style-type: none"> 5. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 7. <input type="checkbox"/> Other _____.
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/GURTEJ BANSAL/ Primary Examiner, Art Unit 2139	
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Continuation Sheet (PTOL-37)

Application No. 14/715,486

Continuation of Attachment(s) 2. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 08/11/2017; 08/11/2017.

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EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an interview with JAMIE ZHENG on August 15, 2017.

The application has been amended as follows:

IN THE SPECIFICATION

Please replace Paragraphs [0011]-[0013] with the following:

[0011] In certain embodiments, a memory module is operable in a computer system to communicate data with a memory controller of the computer system via a memory data bus in response to memory commands received from the memory controller. The memory commands including a first memory command and a subsequent second memory command. ~~The~~ The first memory command is to cause the memory module to receive or output a first data burst and the second memory command is to cause the memory module to receive or output a second data burst. The memory module comprises a printed circuit board, a register coupled to the printed circuit board, a

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plurality of memory integrated circuits mounted on the printed circuit board, a buffer, and logic coupled to the buffer ~~a plurality of memory integrated circuits including at least one first memory integrated circuit and at least one second memory integrated circuit, and further comprises a buffer coupled~~ coupled between the at least one first memory integrated circuit and the data bus, and between the at least one second memory integrated circuit and the data bus. The buffer couples the at least one first memory integrated circuit to the data bus and isolates the at least one second memory integrated circuit from the data bus while the memory module is receiving or outputting the first data burst in response to the first memory command. The buffer then couples the at least one second memory integrated circuit to the data bus and isolates the at least one first memory integrated circuit from the data bus while the memory module is receiving or outputting the second data burst in response to the second memory command.

[0012] In certain embodiments, the printed circuit board has a plurality of edge connections configured to be electrically coupled to a corresponding plurality of contacts of a module slot of the computer system. The register is configured to receive and buffer first command and address signals representing the first memory command, and to receive and buffer second command and address signals representing the second memory command. The plurality of memory integrated circuits are arranged in a plurality of ranks including a first rank and a second rank, and including at least one first memory integrated circuit in the first rank and at least one second memory integrated

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circuit in the second rank. The first rank is selected to receive or output the first data burst in response to the first memory command and is not selected to communicate data with the memory controller in response to the second memory command. The second rank is selected to receive or output the second data burst in response to the second memory command and is not selected to communicate data with the memory controller in response to the first memory command. ~~Certain embodiments provide a method of operating a memory module coupled to a memory controller via a memory bus that includes a control/address (C/A) bus and a data bus. The memory module comprises memory integrated circuits, including at least one first memory integrated circuit and at least one second memory integrated circuit. The method comprises receiving from the memory controller a first set of input C/A signals associated with a first memory command via the C/A bus, the first memory command to cause the memory module to receive or output a first data burst; generating a first set of output C/A signals in response to the first set of input C/A signals, the first set of output C/A signals causing the at least one first memory integrated circuit to receive or output the first data burst; receiving from the memory controller a second set of input control/address signals associated with a second memory command via the C/A bus, the second memory command to cause the memory module to receive or output a second data burst; generating a second set of output C/A signals in response to the second set of input C/A signals, the second set of output C/A signals causing the at least one second memory integrated circuit to receive or output the second data burst; coupling the at least one first memory integrated circuit to the data bus and isolating the~~

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~~at least one second memory integrated circuit from the data bus while the memory module is receiving or outputting the first data burst in response to the first memory command; and coupling the at least one second memory integrated circuit to the data bus and isolating the at least one first memory integrated circuit from the data bus while the memory module is receiving or outputting the second data burst in response to the second memory command.~~

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[0013] In certain embodiments, the buffer is coupled between the at least one first memory integrated circuit and the memory bus, and between the at least one second memory integrated circuit and the memory bus. The logic is configured to respond to the first memory command by providing first control signals to the buffer to enable communication of the first data burst between the at least one first memory integrated circuit and the memory controller through the buffer. The logic is further configured to respond to the second memory command by providing second control signals to the buffer to enable communication of the second data burst between the at least one second memory integrated circuit and the memory controller through the buffer. The second control signals are different from the first control signals. a circuit is configured to be mounted on a memory module that is operable to communicate data with a memory controller via a data bus in response to memory commands received from the memory controller. The memory module including at least one first memory integrated circuit and at least one second memory integrated circuit. The memory commands including a first memory command and a subsequent second memory command, the

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~~first memory command to cause the at least one first memory integrated circuit to receive or output a first data burst and the second memory command to cause the at least one second memory integrated circuit to receive or output a second data burst. The circuit comprises logic that couples the at least one first memory integrated circuit to the data bus and that isolates the at least one second memory integrated circuit from the data bus while the memory module is receiving or outputting the first data burst in response to the first memory command. The logic then couples the at least one second memory integrated circuit to the data bus and isolates the at least one first memory integrated circuit from the data bus while the memory module is receiving or outputting the second data burst in response to the second memory command~~

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Please replace the Abstract of the Disclosure with the following:

ABSTRACT OF THE DISCLOSURE

A memory module is operable to communicate data with a memory controller via a memory data bus in response to memory commands received from the memory controller. The memory module comprises a plurality of memory integrated circuits arranged in ranks and including at least one first memory integrated circuit in a first rank and at least one second memory integrated circuit in a second rank, and further comprises a buffer ~~that couples~~ coupled between the at least one first memory integrated circuit and to the memory data bus and between ~~isolates~~ the at least one second memory integrated circuit and from the memory data bus. The memory module further comprises logic providing first control signals to the buffer to enable communication of while the memory module is receiving or outputting a first data burst between the memory controller and the at least one first memory integrated circuit through the buffer in response to a first memory command, and providing second control signals to the buffer to enable communication of a second data burst between- ~~The buffer then couples the at least one second memory integrated circuit and the memory bus through the buffer to the data bus and isolates the at least one first memory integrated circuit from the data bus while the memory module is receiving or outputting a second data burst in response to a second memory command.~~

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the at least one first memory integrated circuit and the memory controller is enabled in accordance with the latency value.

30. (Previously Presented) The memory module of claim 1, wherein the memory module is further coupled to the memory controller using an on-die-termination (ODT) bus, wherein each of the plurality of memory devices includes an ODT circuit, the memory module further comprising a termination circuit external to any of the plurality of memory devices, wherein the termination circuit is coupled to the ODT bus and to the ODT circuit of at least one of the plurality of memory devices, wherein the termination circuit is configured to provide external termination of the at least one of the plurality of memory devices in response to an ODT signal on the ODT bus, and wherein the ODT circuit in the at least one of the plurality of memory devices is disabled.

31. (Previously Presented) The memory module of claim 1, wherein the buffer comprises combinatorial logic, registers, and logic pipelines, and is configured to register an additional clock cycle for transferring the first data burst or the second data burst through the buffer.

32. (Previously Presented) The memory module of claim 25, wherein the logic is further configured to determine the latency value.

33. (Previously Presented) The memory module of claim 25, wherein the logic is further configured to enable the communication of the second data burst between the at least one second memory integrated circuit and the memory controller in accordance with the latency value.

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34. (Previously Presented) The memory module of claim 33, wherein the buffer comprises combinatorial logic, registers, and logic pipelines and is configured to register an additional clock cycle for transferring the second data burst through the buffer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GURTEJ BANSAL whose telephone number is (571)270-5588. The examiner can normally be reached on Monday - Friday, 7:30 a.m. - 5:00 p.m., EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon can be reached on (571)272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GURTEJ BANSAL
Primary Examiner
Art Unit 2139

/GURTEJ BANSAL/
Primary Examiner, Art Unit 2139